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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/537,654	03/29/00	MAHAJAN P	1107

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EXAMINER
KUBELIK,A

ART UNIT	PAPER NUMBER
1638	

DATE MAILED: 11/08/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/537,654	Applicant(s) MAHAJAN ET AL.	
	Examiner Anne Kubelik	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2000 and 26 September 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) *11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2,4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Applicant's election with traverse of Group I (claims 1-10 to the extent they read on SEQ ID NO:1) in Paper No. 7 is acknowledged. The traversal is on the ground(s) that the nucleic acid of Group I and the protein of Group II are capable of use together because the nucleic acid can be used to produce the protein, and both have the same function, that is to modify the level of RAD51. Applicant also asserts that the groups are linked because claim 1(b) is directed to a nucleic acid that encodes a protein of SEQ ID NO:2.

This is not found persuasive because the polynucleotide and the polypeptide are not linked because the polynucleotide encodes the polypeptide. The polypeptide is not directly made from the DNA molecule that encodes it. While the nucleic acid sequence may provide researchers the amino acid sequence of the initially-translated protein, it does not allow them to accurately predict properties of the protein like K_m, temperature maximum, or even molecular weight of the processed protein. Additionally, the protein can be isolated from the natural source and characterized in detail without knowledge of the DNA that encodes it, and in fact, many proteins were isolated years before DNA cloning and sequencing were possible.

Neither the claims nor the instant specification discloses the nucleic acid and the protein as being used together. The method of claim 9 uses the nucleic acid to modulate the level of Rad51 in a plant; the method does not use isolated protein.

Lastly, the claims are not limited to single nucleic acid sequences or amino acid sequences, but encompass a multitude of nucleic acid sequence variants encoding a multitude of amino acid sequences with varying properties.

Applicant also argues that the nucleic acids of SEQ ID NOs:1, 3 and 5 are all highly related, as are the proteins they encode. Thus, Applicant asserts that the nucleic acids could be searched together without undue burden on the Examiner. Lastly, Applicant asserts that the MPEP states that it would be reasonable to examine up to 10 independent and distinct nucleotide sequences in one application.

This is not found persuasive because a thorough examination of all the claims in the instant application requires individual searches on each of the sequences against all the databases at the PTO. The Official Gazette Notice of November 19, 1996 is one that permits the examiner restrict to **up to** ten inventions and was intended to apply to short EST-like sequences with no known function. Since 1996, databases and resource allocations at the PTO have changed and the examination of 10 sequences on the merits in the instant application would present a severe burden on PTO resources. Additionally, it is noted that one sequence is within the O.G. notice range of "up to ten" sequences. Lastly, the alignments referred to by Applicant showing a high degree of homology among the nucleic acids and among the proteins is not present in the application, nor were they included in Paper No. 7.

Claim 11 is withdrawn from consideration as being drawn to a nonelected invention. Claims 1-10 are examined only to the extent they read on nucleic acids encoding SEQ ID NO:2.

The requirement is still deemed proper and is therefore made FINAL.

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it does not identify the post office address of each inventor. A post office address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The post office address should include the ZIP Code designation.

3. The disclosure is objected to because it contains embedded hyperlinks and/or other forms of browser-executable code. Applicant is required to delete the embedded hyperlinks and/or other forms of browser-executable code. See MPEP § 608.01.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific asserted utility or a well established utility.

The claims are drawn to an isolated polynucleotide comprising at least 30 contiguous nucleotides of SEQ ID NO:1, cells and plants transformed with those nucleotides and methods of using them to modulate the level of maize RAD51 in a plant. However, polynucleotides comprising at least 30 contiguous nucleotides of SEQ ID NO:1 include a nucleic acid encoding a mannanase (Buchert et al, 1997, US Patent 5,661,021). Polynucleotides comprising at least 30 contiguous nucleotides of a nucleic acid with more than 80% identity to SEQ ID NO:1 and polynucleotides that selectively hybridize to SEQ ID NO:1 include a human nucleic acid with homology to DNA repair proteins (NCI-CGAP, 1998, GenBank Accession No. AI184177). Lastly, nucleotides comprising at least 30 contiguous nucleotides of an *Arabidopsis* nucleic acid

that encodes SEQ ID NO:2 include those that are thought to encode RAD57 (Rounsley et al, 1998, GenBank Accession No. O22144). See the circled regions on the sequence search results. The instant specification fails to teach the specific use of these nucleic acids.

6. Claim 8 is rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific asserted utility or a well established utility.

Claim 8 is drawn to a transgenic seed from a transgenic plant. There is no requirement in the claim that the transgenic seed have the expression construct of claim 2. The instant specification fails to teach the specific use of a transgenic seed that does not comprise the expression cassette of claim 2.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-10 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

9. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for nucleic acids of SEQ ID NO:1 or that encode SEQ ID NO:2, does not reasonably provide enablement for nucleic acids that have 80% identity to SEQ ID NO:1, that are amplified from primers that hybridize under unspecified stringency to "loci within" SEQ ID

NO:1, or that comprise 30 nucleotides that hybridize to SEQ ID NO:1. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The claims are broadly drawn to a multitude of nucleic acids that have 80% identity to SEQ ID NO:1, that are amplified from primers that hybridize under unspecified stringency to "loci within" SEQ ID NO:1, or that comprise 30 nucleotides that hybridize to SEQ ID NO:1, cells and plants transformed with those nucleic acids and a method of using those nucleic acids to modulate the level of maize RAD51 in a plant.

The instant specification, however, fails to provide guidance for which amino acids of SEQ ID NO:2 can be altered and to which other amino acids, and which amino acids must not be changed, to maintain RAD51 activity of the encoded protein. The specification also fails to provide guidance for which amino acids can be deleted and which regions of the protein can tolerate insertions and still produce a functional enzyme.

It cannot be predicted by one of skill in the art that nucleic acids that have 80% identity to SEQ ID NO:1, that are amplified from primers that hybridize under unspecified stringency to "loci within" SEQ ID NO:1, or that comprise 30 nucleotides that hybridize to SEQ ID NO:1 will encode a protein with the same activity as SEQ ID NO:2. Bowie et al (1990, Science 247:1306-10) teach that an amino acid sequence encodes a message that determines the shape and function of a protein and that it is the ability of the protein to fold into unique three-dimensional structures that allows it to function and carry out the instructions of the genome. The cited reference also teaches that the prediction of protein structure from sequence data and, in turn, utilizing predicted structural determinations to ascertain functional aspects of the protein, is extremely

complex (pg 1306, left column). Bowie et al teach that while it is known that many amino acid substitutions are possible in any given protein, the positions within the protein's sequence where such amino acid substitutions can be made with a reasonable expectation of maintaining function are limited. Certain positions in the sequence are critical to the three-dimensional structure/function relationship, and these regions can tolerate only conservative substitutions or none at all (pg 1306, right column). The sensitivity of proteins to alterations in even a single amino acid in a sequence is exemplified by Burgess et al (1990, J. Cell Biol. 111:2129-2138), who teach that the replacement of a single lysine residue at position 118 of acidic fibroblast growth factor by glutamic acid led to a substantial loss of heparin binding, receptor binding, and biological activity of the protein.

The sensitivity of proteins to alterations in even a single amino acid in a sequence is exemplified by Lazar et al (1988, Mol. Cell. Biol. 8:1247-1252), who teach that a replacement of aspartic acid at position 47 with alanine or asparagine in transforming growth factor alpha had no effect, but that replacement with serine or glutamic acid sharply reduced biological activity (see the abstract). Small changes in amino acid sequence can completely modify enzymatic function; Broun et al (1998, Science 282:1315-1317) teach that a change of four amino acids converts an oleate 12-desaturase to a hydroxylase. Thus, Lazar et al and Broun et al demonstrated that one or few amino acid substitutions could dramatically affect the biological activity and the structure-function characteristics of a protein.

Making "conservative" substitutions (*e.g.*, substituting one polar amino acid for another, or one acidic one for another) does not produce predictable results. Lazar et al (*supra*) showed that the "conservative" substitution of glutamic acid for aspartic acid at position 47 reduced

biological function of transforming growth factor alpha while "nonconservative" substitutions with alanine or asparagine had no effect (abstract). Similarly, Hill et al (1998, Biochem. Biophys. Res. Comm. 244:573-577) teach when three histidines that are maintained in ADP-glucose pyrophosphorylase across several species are substituted with the "nonconservative" amino acid glutamine, there is little effect on enzyme activity, while the substitution of one of those histidines with the "conservative" amino acid arginine drastically reduced enzyme activity (see Table 1). The nucleic acids encoding all these mutated proteins, however, would hybridize under high stringency to the nucleic acids encoding the original protein.

The nucleic acid of SEQ ID NO:1 is thought to encode a RAD51 protein, and RAD51 proteins are thought to have similar cellular functions to RecA (instant specification, pg 3, lines 3-16, and Thacker et al, 1999, Trends in Gen. 15:166-168). Plants transformed with a gene encoding the RecA protein unexpectedly do not have increased gene targeting, even though the plants had increased levels of intrachromosomal recombination (Reiss et al (2000, Proc. Natl. Acad. Sci. 97:3358-3363, pg 3360-3362).

Lastly, the instant specification fails to teach how nucleic acids encoding a mannanase or how human or *Arabidopsis* nucleic acids that do not encode RAD51, as discussed in the 35 USC 101 rejection above, could be used to modulate the level of maize RAD51 in a plant.

Given the claim breath, unpredictability, and lack of guidance as discussed above, undue experimentation would have been required by one skilled in the art to develop and evaluate nucleic acids that have 80% identity to SEQ ID NO:1, that are amplified from primers that hybridize under unspecified stringency to "loci within" SEQ ID NO:1, or that comprise 30

nucleotides that hybridize to SEQ ID NO:1, cells and plants transformed with those nucleic acids and a method of using those nucleic acids to modulate the level of maize RAD51 in a plant.

10. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are broadly drawn to a multitude of DNA molecules from any source that have 80% identity to SEQ ID NO:1 or that comprise 30 nucleotides that hybridize to SEQ ID NO:1 and to a multitude of DNA molecules that are amplified from maize from primers that hybridize under unspecified stringency to "loci within" SEQ ID NO:1. In contrast, the specification only describes a coding sequence from maize that comprises SEQ ID NO:1.

Claim 1 recites no description of the function of the protein encoded by the nucleic acid and the plant claims recite no phenotype. There are many different RAD51 type proteins with different patterns of protein-protein interactions and an inability to complement one another (see, *e.g.*, Dosanjh et al, 1998, Nuc. acids res. 26:1179-1184, pg 1183, right column, paragraph 2). Thus, the different RAD51 proteins appear to have different functions within a cell.

Hence, Applicant has not, in fact, described the DNA molecules of claim 1 within the full scope of the claim, and the specification fails to provide an adequate written description of the claimed invention.

Therefore, given the lack of written description in the specification with regard to the structural and physical characteristics of the claimed compositions, and given the high level of

unpredictability in this art, one skilled in the art would not have been in possession of the genus claimed at the time this application was filed.

See *University of California v. Eli Lilly*, 119 F.3d 1559, 43 USPQ 2d 1398 (Fed, Cir. 1997):

> The name cDNA is not in itself a written description of that DNA; it conveys no distinguishing information concerning its identity. While the example provides a process for obtaining human insulin-encoding cDNA, there is no further information in the patent pertaining to that cDNA's relevant structural or physical characteristics; in other words, it thus does not describe human insulin cDNA .... Accordingly, the specification does not provide a written description of the invention ....

and at pg 1406:

> a generic statement such as "vertebrate insulin cDNA" or "mammalian insulin cDNA," without more, is not an adequate written description of the genus because it does not distinguish the genus from others, except by function. It does not specifically define any of the genes that fall within its definition. It does not define any structural features commonly possessed by members of the genus that distinguish them from others. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the genus. A definition by function, as we have previously indicted, does not suffice to define the genus because it is only an indication of what the genes does, not what it is.

See *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ 2d 1016 at page 1021:

> A gene is a chemical compound, albeit a complex one, and ... conception of a chemical compound requires that the inventor be able to define it so as to distinguish it from other materials .... Conception does not occur unless one has a mental picture of the structure of the chemical or is able to define it by its method of preparation, its physical or chemical properties, or whatever characteristics sufficiently distinguish it. It is not sufficient to define it solely by it principal biological property, *e.g.*, encoding human erythropoietin, because an alleged conception having no more specificity than that is simply a wish to know the identity of any material with that biological property.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

Dependent claims are included in all rejections.

Claim 1 is indefinite in its recitation of "GAP algorithm". The instant specification identified "GAP" as a computerized implementation of one of the homology alignment algorithms (pg 18, lines 14-26). It is not itself an algorithm. Replacement of "algorithm" with --analysis-- or --program-- is suggested.

Claim 1 is indefinite in its recitation of "stringent hybridization conditions" in parts (c) and (d) and of "selectively hybridize[s]" in parts (c) and (d). What would be considered selective or nonselective hybridization and what level of stringency is considered selective or stringent is unclear. For purposes of examination, any kind of hybridization at any level of stringency was assumed. Such treatment does not relieve Applicant of the responsibility to respond to this rejection.

In claim 1, part (d), the time for which the wash is done is unclear. For purposes of examination, any length of time was assumed. Such treatment does not relieve Applicant of the responsibility to respond to this rejection.

Claim 1(c) is indefinite in its recitation of "amplified ... to loci within". It is not clear what those loci are or their size. Additionally, the size of an amplified polynucleotide is not clear. For purposes of examination, the loci were assumed to be single nucleic acids and the amplified polynucleotide was assumed to be two nucleotides. Such treatment does not relieve Applicant of the responsibility to respond to this rejection.

Claim 7 is not written in proper Markush format. The claims should be in the format "selected from the group consisting of A, B, C and D." The semicolon after "consisting of" should be deleted. See MPEP § 2173.05(h).

Claim 9 recites the limitation "a maize RAD51 polynucleotide of claim 1" in part (a). There is insufficient antecedent basis for this limitation in the claim, as claim 1 is not limited to maize RAD51 polynucleotide.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

14. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Buchert et al (1997, US Patent 5661021).

Buchert et al teach a polynucleotides comprising at least 30 contiguous nucleotides of SEQ ID NO:1 (see sequence search results). This nucleic acid was in an expression cassette and expressed in yeast cells (column 7, line 55, to column 9, line 25).

15. Claims 1-3 are rejected under 35 U.S.C. 102(a) as being anticipated by NCI-CGAP (1998, GenBank Accession No. AI184177).

NCI-CGAP teaches a nucleic acid that comprises 40 nucleotides with more than 80% sequence identity to SEQ ID NO:1 (see sequence search results). This nucleic acid would selectively hybridize to SEQ ID NO:1. This nucleic acid would be in an expression cassette like

that of a pUC or similar vector and this would be in a host cell for purposes of molecular biological manipulation.

16. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Rounsley et al (1998, GenBank Accession No. O22144).

Rounsley et al teach a nucleic acid that comprises 42 contiguous nucleotides of a nucleic acid that encodes SEQ ID NO:2 (see circled region on the sequence search results). This nucleic acid would be in an expression cassette like that of a pUC or similar vector and this would be in a host cell for purposes of molecular biological manipulation.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 1-4, 6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reiss et al (1996, Proc. Natl. Acad. Sci. 93:3094-3098) in view of Rounsley et al (*supra*).

The claims are drawn to plants transformed with a nucleic acid that has 80% identity to SEQ ID NO:1, that is amplified from primers that hybridize under unspecified stringency to "loci within" SEQ ID NO:1, or that comprises 30 nucleotides that hybridize to SEQ ID NO:1.

Reiss et al teach tobacco plants transformed with the *recA* gene. Reiss et al do not disclose tobacco plants transformed with a maize RAD51-family gene.

Rounsley et al teach a nucleic acid that comprises 42 contiguous nucleotides of a nucleic acid that encodes SEQ ID NO:2. This nucleic acid is thought to encode a RAD51 family protein.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to transform tobacco plants with the *recA* gene as taught by Reiss et al, and to modify that to use the RecA/RAD51-family gene described in Rounsley et al. One of ordinary skill in the art would have been motivated to do so because of the increased resistance of the transformed plants to mitocycin C (Reiss et al, pg 3096).

19. Claims 5, 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reiss et al in view of Rounsley et al as applied to claims 1-4, 6 and 8-9 above, and further in view of Gordon-Kamm et al (1990, Plant Cell 2:603-618).

The claims are drawn to maize plants transformed with a nucleic acid that has 80% identity to SEQ ID NO:1, that is amplified from primers that hybridize under unspecified stringency to "loci within" SEQ ID NO:1, or that comprises 30 nucleotides that hybridize to SEQ ID NO:1.

Reiss et al in view of Rounsley et al disclose tobacco plants transformed with a RAD51-family gene. Reiss et al in view of Rounsley et al do not disclose a maize plant transformed with that gene.

Gordon-Kamm et al teach transformation of maize (pg 604-610).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to transform a dicot with a Rad51-family gene as taught by Reiss et al in view of Rounsley et al, and to modify that to transform it into maize as described in Gordon-Kamm et al. One of ordinary skill in the art would have been motivated to do so because choosing a cereal

crop of agronomic importance to be transformed to increase resistance of the transformed plants to mitocycin C would be obvious (Reiss et al, pg 3096).

Conclusion

20. No claim is allowed.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (703) 308-5059. The examiner can normally be reached on Monday through Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula K. Hutzell, can be reached on (703) 308-4310. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Anne R. Kubelik, Ph.D.
October 31, 2001

DAVID T. FOX
PRIMARY EXAMINER
GROUP ~~180~~ 1638